

Remarks

The Office Action dated March 7, 2007 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1, 3-6, 8-11, 13-16, and 18-19 are pending in this application. Claims 1, 3-6, 8-11, 13-16, and 18-19 stand rejected. Claims 2, 7, 12, and 17 have been previously cancelled.

The rejection of Claims 1, 3-6, 8-11, 13-16, and 18-19 under 35 U.S.C. § 103(a) as being unpatentable over Maguire et al. (US 5,331,579) in view of Kruger et al. (U.S. 2003/0063702) is respectfully traversed.

Maguire et al. describe a modeling system that utilizes statistical, deterministic and expert models to determine system degradation with age; arranges the model in a hierarchical structure of communicating and independently executing object modules controlled by an overall supervisor. Each object module includes a deterministic equation based aging model, a statistical based component aging model and expert rules that combine the deterministic and statistical model with the knowledge of experts to determine the current state of the object.

Kruger et al. describe a computer model of water in a boiling water nuclear reactor. The program code for the modeling/simulation routine of the Kruger et al. invention may be written, for example, in a Visual Basic module in an Excel workbook. Also, sample data may be collected in the field and may be input to the modeling/simulation program from a spreadsheet.

Independent Claim 1 of the present application recites a modular method of modeling a power plant that includes "selecting a major component module model from a library of component module models for each major component of the power plant, each major component module representing a power plant major component of a unique configuration; inputting initial model information into a database for the selected modules by inputting the initial model

information into a spread sheet associated with each selected module, the initial model information including at least one of operating parameters, design data, convergence criteria, and a maximum number of passes; running the modular model by running each selected module and enabling data exchange between the selected modules, wherein running each selected module comprises running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed; and generating a result that indicates the performance of the major components of the power plant."

Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method as recited in Claim 1. Particularly, Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method that includes running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Rather, Maguire et al. describe a modeling system that utilizes statistical, deterministic and expert models to determine system degradation with age; arranges the model in a hierarchical structure of communicating and independently executing object modules controlled by an overall supervisor. Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Also, Kruger et al. teaches a computer model that is not a modular method. The method of Kruger et al. does not employ a modular approach. Therefore, Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Applicants submit that modifying the teachings of Maguire et al. with the teachings of Kruger et al. do not describe nor suggest all the recitations of Claim 1.

Accordingly, Applicant submits that Claim 1 is patentable over Maguire et al. and Kruger et al., alone or in combination.

Claims 3-5 depend from independent Claim 1. When the recitations of dependent Claims 3-5 are considered in combination with the recitations of Claim 1, Applicant respectfully submits that Claims 3-5 likewise are patentable over Maguire et al. and Kruger et al., alone or in combination.

Independent Claim 6 of the present application recites a modular method of modeling a power plant that includes "selecting at least two component module models from a library of component modules, each component module representing a power plant component of a unique configuration; inputting initial model information into a database for the selected modules by inputting initial model information into a spread sheet associated with each selected module, the initial model information including at least one of operating parameters, design data, convergence criteria, and a maximum number of passes; running the modular model by running each selected module and exchanging data between the selected modules, wherein running each selected module comprises running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed; and generating a result that indicates the performance of the major components of the power plant."

Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method as recited in Claim 6. Particularly, and as explained above, Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method that includes running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Rather, Maguire et al. describe a modeling system that utilizes statistical, deterministic and expert models to determine system degradation

with age; arranges the model in a hierarchical structure of communicating and independently executing object modules controlled by an overall supervisor. Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Also, Kruger et al. teaches a computer model that is not a modular method. The method of Kruger et al. does not employ a modular approach. Therefore, Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Applicants submit that modifying the teachings of Maguire et al. with the teachings of Kruger et al. do not describe nor suggest all the recitations of Claim 6. Accordingly, Applicant submits that Claim 6 is patentable over Maguire et al. and Kruger et al., alone or in combination.

Claims 8-10 depend from independent Claim 6. When the recitations of dependent Claims 8-10 are considered in combination with the recitations of Claim 6, Applicant respectfully submits that Claims 8-10 likewise are patentable over Maguire et al. and Kruger et al., alone or in combination.

Independent Claim 11 of the present application recites a modular method of modeling a power plant that includes "creating a power plant model by selecting a major component module model from a library of component module models for each major component of the power plant, each major component module representing a power plant major component of a unique configuration; linking the selected modules together to enable data exchange between modules; inputting initial model information into a database for the selected modules by inputting initial model information into a spread sheet associated with each selected module, the initial model information including at least one of operating parameters, design data, convergence criteria, and

a maximum number of passes; running the modular model by running each selected module and exchanging data between the selected modules, wherein running each selected module comprises running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed; and generating a result that indicates the performance of the major components of the power plant."

Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method as recited in Claim 11. Particularly, and as explained above, Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a method that includes running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Rather, Maguire et al. describe a modeling system that utilizes statistical, deterministic and expert models to determine system degradation with age; arranges the model in a hierarchical structure of communicating and independently executing object modules controlled by an overall supervisor. Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Also, Kruger et al. teaches a computer model that is not a modular method. The method of Kruger et al. does not employ a modular approach. Therefore, Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Applicants submit that modifying the teachings of Maguire et al. with the teachings of Kruger et al. do not describe nor suggest all the recitations of Claim 11. Accordingly, Applicant submits that Claim 11 is patentable over Maguire et al. and Kruger et al., alone or in combination.

Claims 13-15 depend from independent Claim 11. When the recitations of dependent Claims 13-15 are considered in combination with the recitations of Claim 11, Applicant respectfully submits that Claims 13-15 likewise are patentable over Maguire et al. and Kruger et al., alone or in combination.

Independent Claim 16 of the present application recites "a power plant model by selecting a major component module model from the library of component module models for each major component of the power plant; link the selected modules together to enable data exchange between modules; receive initial model information from a user for the selected modules, the initial model information including at least one of operating parameters, design data, convergence criteria, and a maximum number of passes; store the initial model information in a spread sheet associated with each selected module; run the modular model by running each selected module including exchanging data between the selected modules, wherein running each selected module comprises running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed."

Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a modular modeling system as recited in Claim 16. Particularly, and as explained above, Maguire et al. and Kruger et al., alone or in combination, do not describe nor suggest a modular modeling system that includes a computer configured to run the modular model by running each selected module including exchanging data between the selected modules, wherein running each selected module comprises running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Rather, Maguire et al. describe a modeling system that utilizes statistical, deterministic and expert models to determine system degradation with age; arranges the model in a hierarchical structure of

communicating and independently executing object modules controlled by an overall supervisor.

Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed. Also, Kruger et al. teaches a computer model that is not a modular method. The method of Kruger et al. does not employ a modular approach. Therefore, Maguire et al. do not describe nor suggest running the selected modules successively until interface conditions converge or until a predetermined maximum number of iterative passes are completed.

Applicants submit that modifying the teachings of Maguire et al. with the teachings of Kruger et al. do not describe nor suggest all the recitations of Claim 16. Accordingly, Applicant submits that Claim 16 is patentable over Maguire et al. and Kruger et al., alone or in combination.

Claims 18-19 depend from independent Claim 16. When the recitations of dependent Claims 18-19 are considered in combination with the recitations of Claim 16, Applicant respectfully submits that Claims 18-19 likewise are patentable over Maguire et al. and Kruger et al., alone or in combination.

For the reasons set forth above, Applicants respectfully request that the Section 102(a) rejection of Claims 1, 3-6, 8-11, 13-16, and 18-19 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Favorable action is respectfully

solicited.

Respectfully submitted,

A handwritten signature in black ink, reading "Michael Tersillo". The signature is fluid and cursive, with the first name "Michael" and last name "Tersillo" clearly distinguishable.

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